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EXAMINER

MEW, KEVIN D

ART UNIT

PAPER NUMBER

2664

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Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|-----------------------------|--|
| Office Action Summary | Application No. 10/028,854 | Applicant(s) HONG ET AL. | |
| | Examiner Kevin Mew | Art Unit 2664 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-9, 11-15 and 17-22 is/are rejected.
- 7) ☒ Claim(s) 3, 10 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-2, 4-5, 8-9, 11, 13-15, 17, 19 are rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art, Oz et al. (WO/0072601 A).

Regarding claims 1, 8, 14, Oz discloses a digital transmission system with an article comprising a computer-readable medium, which stores computer-executable instructions, the instructions defined to cause a computer to perform a method (a system and method for separating a media stream into layers, page 9, lines 1-13) of:

encoding a data set into a plurality of coding units (each frame is encoded into a plurality of frame representations at different layer levels), with each coding unit (each consecutive frame representation) being progressively encoded to sequentially present most significant data followed by less significant data (each consecutive frame representation is assigned descending priorities, frame representation of the first frame at the base layer $50_{0,1}$ in the first queue 60_1 has higher compression and priority than frame representation of the first frame at the second layer level $50_{0,2}$ in the second queue 60_2 , page 13, lines 4-18, page 14, lines 1-4 and Fig. 4),

packetizing each of the plurality of coding units to provide transmissible data packets (packetizing unit encapsulates the frame representations for transmission, page 13, lines 19-31, page 14, lines 1-4 and Fig. 4), and

marking each transmissible data packet from the same coding unit (each packet within a queue is assigned an expiration time stamp) to allow time based selective flushing of those data packets carrying less significant data (to allow discarding and deleting packets from the queue after the time stamp expires, page 14, lines 1-12).

Regarding claims 2, 9, Oz discloses the instructions further cause a computer to perform the method of claim 1, further comprising time stamping to mark transmissible data packets from the same coding unit (a packet within a queue is assigned an expiration time stamp), and flushing those queued time stamped transmissible data packets after a predetermined time if all transmissible data packets for the same coding unit are not transmitted within that predetermined time (discarding and deleting packets from the queue for those packets that are not transmitted within the time stamp expiration period, page 14, lines 1-12).

Regarding claims 4, 11, 17, Oz discloses a digital transmission system with the instructions further to perform the method of claim 1, further comprising maintaining a data queue for temporarily holding coding units stored in the data queue (each data queue is holding frame representations at a respective layer level, page 14, lines 1-13) as time stamped data packets having the same time stamps (each packet within a queue is assigned an expiration time stamp), and interrupting data packet transmission (packets are discarded and deleted) if data

packets belonging to a coding unit in the data queue are not transmitted within a preset time period (if data packets are not transmitted within a predetermined period of time, page 14, lines 1-13).

Regarding claim 5, Oz discloses the method of claim 1, further comprising transmitting progressively coded transmissible data packets using an asynchronous reliable packet communication protocol (frame representations can be transported using ATM protocol, page 22, lines 3-7).

Regarding claim 13, Oz discloses the article comprising a computer-readable medium which stores computer-executable instructions of claim 9, wherein the instructions further cause encoding of image data using transform coding (encoding video stream in accordance with MPEG format, page 10, lines 4-14).

Regarding claim 15, Oz discloses the digital transmission system of claim 14, further comprising a decoding module to decode transmitted data packets (reception router, page 14, lines 18-22 and Fig. 5).

Regarding claim 19, Oz discloses the digital transmission system of claim 14, further comprising a transform coding module for encoding image data (encoding video data in accordance with MPEG format, page 9, lines 1-13).

2. Claims 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art, Van Der Zee et al. ("Quality of Service in Bluetooth Networking – Part I," XP-002233486).

Regarding claim 20, Van Der Zee discloses a method of:

providing a Logical Link Control and Adaptation Protocol (L2CAP) module (section 2.8.1, lines 1-7) to packetize Transport Packets created by a Transport Layer module into L2CAP packets for a defined L2CAP channel (adapts higher layer protocols into L2CAP data packets for a L2CAP channel, sections 2.8.1, 2.7.2), and

flushing the L2CAP packets from a data queue (Host Controller buffer) after a predetermined time (L2CAP packet is flushed out of the Host Controller buffer after the flush timeout period expires, section 2.7.3) by issuing a Flush Request for the L2CAP channel from the Transport Layer module (L2CAP layer is notified with a Flush_Occurred event), the L2CAP module removing any remaining packets associated with the L2CAP Channel from the data queue (those L2CAP packets that failed transmission are flushed out of the Host Controller buffer, section 2.7.3).

Regarding claim 21, Van Der Zee discloses the method of claim 20, further comprising issuing an HCI_Flush command to a Link Manager module (HCI Flush Timeout is set per ACL link) connected to the L2CAP module (HCI command with Timeout to flush the whole content of the Host Controller buffer, section 2.7.3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-7, 12, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oz et al. in view of Van Der Zee et al. ("Quality of Service in Bluetooth Networking – Part I," XP-002233486).

Regarding claims 6, 12, 18, Oz discloses all the aspects of the claimed invention set forth in the rejection of claim 20 above, except fails to explicitly show a wireless transmission unit with instructions to perform the method of claim 1, further comprising transmitting progressively coded transmissible data packets over a wireless physical layer. However, Van Der Zee anticipates the transmission of the encoded data packet over a wireless link (section 3.9.3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the encoding system and method of Oz with the teaching of Van Der Zee such that the encoded data packets will be transmitted via a wireless physical layer. The motivation to do so is to provide a low cost wireless link interface to support data packet transmission.

Regarding claim 7, Oz discloses all the aspects of the claimed invention set forth in the rejection of claim 20 above, except fails to explicitly show the method of claim 6, further wherein data packets are asynchronously transmitted using a connectionless protocol. However,

Van Der Zee discloses L2CAP protocol such that data are transmitted in a connectionless manner (section 2.8.1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the encoding system and method of Oz with the teaching of Van Der Zee such that the data packets are asynchronously transmitted using a connectionless protocol such as the L2CAP protocol. The motivation to do so is to provide a service to transmit data packets to the members of a group of devices in a best effort manner.

4. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Der Zee et al. ("Quality of Service in Bluetooth Networking – Part I," XP-002233486) in view of Siracusa (USP 5,365,272).

Regarding claim 22, Van Der Zee discloses all the aspects of the claimed invention set forth in the rejection of claim 20 above, except fails to explicitly show the method of claim 20, wherein the data queue is a virtual queue that contains pointers to memory locations where Transport Packets are stored. However, Siracusa discloses a digital compressed video signal transmission system that involves a transport protocol for arranging hierarchically formatted compressed video data such that the link layer defines a service layer that includes an entry pointer which indicates a data point within respective payloads of the transport cells (col. 2, lines 22-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the encoding system and method of Van Der Zee with the teaching of Siracusa in using a pointer to point to data in the respective transport cells in the transport protocol layer such that the Host Controller buffer includes pointers to data memory

locations in the transport layer. The motivation to do so is to allow a receiver to rapidly recover from occurrences of missing data or corrupted data.

Allowable Subject Matter

5. Claims 3, 10, 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 3, the method of claim 2, wherein flushing further comprises flushing a transport layer, flushing a link layer, and flushing a media access control (MAC) layer of a data handling protocol stack.

In claim 10, the article comprising a computer-readable medium which stores computer-executable instructions of claim 9, wherein the instructions further cause a computer to flush a transport layer, flush a link layer, and flush a media access control (MAC) layer of a data handling protocol stack.

In claim 16, the digital transmission system of claim 15, wherein the flushing module flushes data packets in a transport layer, flushes data packets in a link layer, and flushes data packets in a media access control (MAC) layer of a data handling protocol stack.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Publication 2002/0163932 to Fischer et al.

US Publication 2002/0064169 to Gummalla et al.

US Publication 2002/0031086 to Welin

US Publication 2002/0006136 to Mallory et al.

US Patent 6,594,276 to Le

US Patent 6,157,653 to Kline et al.

US Patent 5,966,385 to Fujii et al.

US Patent 5,652,749 to Davenport et al.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



WELLINGTON CHIN
SENIOR PATENT EXAMINER